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| 09/874,437      | 06/05/2001  | Yukio Sato           | 33670               | 5800             |

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| EXAMINER |
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PHU, SANH D

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| ART UNIT | PAPER NUMBER |
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2682

DATE MAILED: 04/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/874,437

Applicant(s)

SATO, YUKIO

Examiner

Sanh D Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 13-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections – 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to Claims 4 and 5 recite the limitation "said clock". There is insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections – 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States

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before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 6-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanbara et al (6,516,201).

Regarding to claim 1, see Fig.1, col. 3, line 15 to col. 5, line 6, Kanbara et al disclose a multi-mode cellular phone terminal comprising:

radio communications means connected to an antenna for transmitting (TX)/receiving (RX) radio waves (see Fig. 1, col. 3, line 22 to col. 4, line 33);

signal processing means for transmitting/receiving a transmit/receive signal to/from said radio communications means (see Fig. 1, col. 3, line 22 to col. 4, line 33); and

communications control means for controlling said radio communications means and said signal processing means, said multi-mode cellular phone terminal supporting a plurality of communications systems (see Fig. 1, col. 3, line 22 to col. 4, line 33),

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wherein said radio communications means is composed of hardware to be used in common by a plurality of communications systems, and said signal processing means is composed of hardware to execute signal processing supporting a plurality of communications systems (see Fig. 1, col. 3, line 22 to col. 4, line 33).

Regarding to claim 2, Kanbara et al disclose that a multi-mode cellular phone terminal wherein said signal processing means can support a plurality of different data rates and modulation systems by using the same communications control system (see Fig. 1, col. 3, line 22 to col. 4, line 33 and col. 6, line 1-16).

Regarding to claim 3, Kanbara et al disclose that a multi-mode cellular phone terminal wherein communications control means can support different communications control systems and that said signal-processing means can support different data rates and modulation systems (PN code and converted to the predetermine data format in accordance with a data rate) (see Fig. 1, col. 3, line 22 to col. 4, line 33 and col. 6, line 1-16).

Regarding to claim 6, Kanbara et al disclose that a multi-mode cellular phone terminal wherein said signal processing means (6) executes modulation/demodulation supporting a plurality of communications systems and has a signal processor (6,7,8) composed of common hardware (40,42,21) and memory (41) storing a plurality of signal processing programs (see Fig. 1, col. 3, line 22 to col. 4, line 33).

Regarding to claim 7, Kanbara et al disclose that a multi-mode cellular phone terminal wherein said signal processing means (6,7,8) executes modulation/demodulation supporting a plurality of communications systems and has a signal processor composed of common hardware and memory storing a plurality of signal processing programs (see Fig. 1, col. 3, line 22 to col. 4, line 33).

Regarding to claim 8, Kanbara et al disclose that a multi-mode cellular phone terminal wherein said signal processing means has a signal processor composed of common hardware and read/write memory storing the minimum signal processing programs to support each communications system (see Fig.1, col. 4, line 38 to col. 5, line 6).

Regarding to claim 9, Kanbara et al disclose that a multi-mode cellular phone terminal wherein said signal processing means has a signal processor composed of common hardware and read/write memory storing the minimum signal processing programs to support each communications system (see Fig.1, col. 4, line 38 to col. 5, line 6).

Regarding to claim 10, Kanbara et al disclose that a multi-mode cellular phone terminal wherein said communications control means has a controller (40) supporting a plurality of communications systems and memory storing control programs supporting the multi-mode (see Fig.1, col. 4, line 38 to col. 5, line 6).

***Claim Rejections – 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanbara et al in view of Ohbichi et al (5,585,617).

Regarding to claim 4 and 5, Kanbara et al disclose data modulation/demodulation is based upon format corresponding to data rate of signal processor (6,7,8) (see Fig. 1, col. 4, lines 1-29)

He does not disclose a clock having a frequency necessary for modulation/demodulation at a plurality of different data rate is generated by frequency division means via different dividing number or fractional frequency division of a reference clock output from a single oscillator.

However, Ohbichi et al disclose a different data rates is generated by a frequency division means (140) for making integral frequency division (14) via different dividing number ( $1/1f$ ,  $1/2f$ ,  $1/3f$ , ...,  $1/2nf$ ) or fractional frequency division of a common reference clock output from a single oscillator (13) (see Ohbuchi et al, Fig. 1 & 2)

At the time of the invention was made, it would have been obvious for a person skilled in the art to implement the frequency division means, as taught by Ohbuchi et al, in order to have a different frequencies to apply for signal



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processor, DAC and ADC so that the system is not only able to synchronize efficiently with a multi-mode transmission but also able to provide high reliability for a multi-mode transmission.

Regarding to claim 11 and 12, Kanbara et al does not disclose a switching system timer for switching over a plurality of clocks generated by frequency division means and different timings to support a plurality of communications systems.

However, Ohbuchi et al disclose a different data rates is generated by a frequency division means (140) for making integral frequency division (14) and different timings ( $1/1f$ ,  $1/2f$ ,  $1/3f...$ ,  $1/2nf$ ) to support a plurality of communications systems (see Ohbuchi et al, Fig. 1 & 2)

At the time of the invention was made, it would have been obvious for a person skilled in the art to implement the frequency division means, as taught by Ohbuchi et al, in order to have a different frequencies to apply for signal processor, DAC and ADC so that the system is not only able to synchronize efficiently with a multi-mode transmission but also able to provide high reliability for a multi-mode transmission.

*Allowable Subject Matter*

3. Claim 13 -18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 13 -15, the prior art of record fails to teach a multi-mode cellular phone terminal that establishes connection of a voice call or data communications by switching over and counting a plurality of timings to support a plurality of communications systems and maintaining the system timing synchronization supporting a plurality of communications systems as recited in claims 13, 14 or 15.

*Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D Phu whose telephone number is (703) 305-8635. The examiner can normally be reached on 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-301-6739. The fax


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phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-8635.

Sanh D. Phu  
Examiner  
Art Unit 2682

SP

  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
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